

**Understanding socio-demographic disparities
in the labor market : the case for
a motivation-based theory**

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Abstract

This paper puts the empirical case for a motivation-based theory of socio-demographic disparities in the labor market. We first present the basic knowledge as regards earnings disparities in the labor market and sum up the classic assessment of the theoretical literature focusing on pure pay discrimination. We then make an attempt to demonstrate that the relevant issues as regards socio-demographic disparities in the labor market, are rather hiring discrimination and, above all, occupational segregation. In this spirit, we have provided in an early work a motivation-based theory of hiring discrimination suggesting a particular pattern of socio-demographic occupational segregation. We check what our model suggests both against statistical and micro evidence. We end with a discussion of the links between our approach and dominant existing theories.

Keywords: Occupational segregation, hiring discrimination, earnings gap.

JEL classification: J31, J32, J53, J71, Z13.

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Various aspects of socio-demographic disparities in the labor market have often been treated in isolation from each others in theoretical analyses.¹ Although empirical studies analysing together these various features² displayed conclusive evidence,³ most theoretical literature kept emphasizing on wage discrimination. Cain puts the case for such a predilection:

(...) when discrimination takes the form of widespread refusals to hire or promote minority workers, this should lower their relative wages. The minorities must bid for jobs in less favored firms, industries, occupations, and so on. (...) my point here is that wage outcomes will reflect this reduced demand for the minority group. Cain (1986, p. 700)

Yet, this was not to say that giving an account of some socio-demographic gaps in average earnings is enough to understand the very realities feeding them.

Our point here is that theorists should care about the detailed (micro-)realities of socio-demographic disparities in the labor market. Understanding them is not just a matter of reproducing earnings gaps, it requires models that are consistent with the broadest set of evidence regarding these disparities.

In this perspective, we have provided in a previous paper⁴ a theory of hiring discrimination based on the propensity of agents to develop intrinsic motivation in the workplace. Intrinsic motivation resulted from the decision to achieve self-esteem through work that is, in the terms of our model, from the holding of a *workplace identity*.⁵ We have argued that agents from distinct socio-demographic groups could differ in their propensity to hold the workplace identity which led to diverging opportunities in the labor market. Our focus was on gender and black/white differences.

The present work is both a discussion of the literature about socio-demographic disparities in the labor market and an assessment of a motivation-based theory. It comprises three parts. The first aims at displaying the classic assessment as regards theories em-

¹Notable exceptions are the segmented labour market theories of Bergman (1971) and Arrow (1973).

²Most notably, by putting the stress on the relationships between phenomena such as occupational segregation and socio-demographic gaps in average earnings.

³For a survey, see Gunderson (1989).

⁴See Baguelin (2004).

⁵As opposed to an out-of-the-workplace identity.

phasizing on earnings disparities. We stress the fact that, at the micro level, the case for wage discrimination is not that staggering (the pure wage discrimination story looks questionable at least). We then turn to available evidence about hiring discrimination and occupational segregation. We believe these are relevant issues both at the micro and macro levels. In this perspective, we explore the link between occupational segregation and socio-démographic gaps in average earnings: this channel is showed to be particularly adequate. The third part is devoted to our motivation-based theory of hiring discrimination. After a short informal exposure of the main features of our theory, we apply it to interpret the evidence about hiring discrimination gathered all through the first two parts. We then display the consequences of this theory in terms of occupational segregation. To the extent that the occupational segregation our theory is leading to is bound to be vertical, it provides ground for an explanation of socio-démographic gaps in average earnings.

1 Earnings disparities in the labor market

What do we know about the general profile of socio-demographic earnings disparities in the labor market? What are the main theories available?

1.1 Statistical knowledge and micro doubts

The more documented cases as regards socio-demographic disparities are gender and black/white differences.

1.1.1 Empirical findings

Data for 2001 show that, across OECD countries, women still earn, on average, 16% less than men per hour worked.⁶ Gender differences in observable characteristics that influence productivity, such as education, potential experience and job tenure, account for little of this gender gap in wages. For the United States, findings indicate that in 1980 and 1990, black men were earning, on average, 12 to 15% less than white men (**controlling for...**).⁷

⁶OECD Employment outlook (2002).

⁷See Darity & Mason [1998].

1.1.2 What micro reality hides behind the figures?

A first hypothesis is that socio-demographic gaps in average earnings respond to differences in human capital investment. Assuming that women expect to spend a lower part of their adult lives at work than men, their return to human capital is lower which involves lower investments, and lower earnings. As for ethnic minorities, differences in family background or home and neighborhood environment would lead them to have less human capital on average. In fact, such stories suggest that earnings inequalities only reflect pre-labor market disparities. Johnson and Neal (1996) provide a statistical test of this hypothesis. Wondering how much of the racial minorities/whites earnings gap (for the United States) is explained by differences in skills that are formed prior to market entry, they show that an adequate proxy for pre-market skills, the AFQT (Armed Forces Qualifying Test), appears as explaining a large part of racial earnings gaps for currently employed workers.

Human capital theory does not do that good as regards the gender gap. For the United States, Blau and Kahn (1997) show that almost 30% of the gap was due to wage differences between men and women with similar measurable human capital. What is more, in OECD countries, women often do better than men as regards education achievement. Another story has been put forward: that of the "family gap". In some countries, mothers earn considerably less than their childless peers when account is taken of the fact that they work fewer hours. This is the case for United States where evidence of a negative effect of children on women's wages has been obtained, even in analyses which control for labor market experience.⁸ However, findings in the OECD employment outlook (2002) suggest that, except for a few countries, there is little evidence of an hourly wage penalty attached to motherhood.

Besides, an interesting point is that fatherhood seems to induce higher merit increases compared to male worker with no family responsibilities.⁹ Why do mothers suffer such a "family gap" but not fathers?

As for the human capital explanation of the racial pay gap, Johnson and Neal (1996) do not exclude that expected discrimination in the labor market to be responsible for the

⁸See Waldfogel (1998).

⁹See, Gunderson (1989, p. 52), or more recently, the OECD employment outlook (2002).

poor average performance of black children.¹⁰ Though, the question of socio-demographic differences in average earnings has raised a central hypothesis: that of pay discrimination.

1.2 Micro theories of discrimination in the labor market and the socio-demographic gap in average pay

If one can generate wage discrimination, one is bound to directly explain statistical wage socio-demographic disparities in the labor market.

1.2.1 Statistical discrimination

The idea is that employers cannot observe everything they wish to know about job applicants. If they believe - rightly according to Johnson and Neal (1996) - that mean expected productivity (human capital) is statistically lower for blacks (resp. women) than for whites (resp. men)¹¹ then it is rational from them to use race (resp. gender) as a signal of lower productivity (or higher turnover propensity) and to offer a lower pay to women and non-white workers. A self-fulfilling prophecy mechanism is often added, that assumes that the lower opportunities offered to minorities might be harmful as regards their incentives to invest in human capital. This statistical-based behavior of the employers would then lead to the pre-market disparities in human capital mentioned above.

1.2.2 Taste-based theories: the assumption of a prejudiced labor demand

Maybe the most intuitive explanation for wage discrimination against black people or women is the existence of some prejudiced agents on the labor demand's side. The exercise is then to clarify how these prejudices determine observed socio-demographic gaps in average earnings. Altonji and Blank (1999) present a survey of the papers that merge ideas from search models of the labor market with Becker-style¹² models of taste discrimination. These models improve the standard analysis to a threefold extent. First, costly search

¹⁰See also Heckman (1998, p. 107).

¹¹Another assumption in statistical discrimination stream, is that signals of productivity are less precise when uttered by members of the minority group (but that expected productivity is the same across socio-demographic groups). This option has proved to receive less empirical support.

¹²Becker (1957, 1971).

implies that the whole distribution of prejudicial tastes matters;¹³ second, it implies that agents suffering from prejudices are at a disadvantage (as regards pay) even when their numbers are small relative to that of non-discriminating labor firms; third, costly search entails that discrimination is unlikely to be eliminated by the entry of new firms.

1.2.3 The classic objection: gaps in average pay are long lasting

Evidence suggests that socio-demographic gaps are long lasting.

Since Becker (1971), a central question posed to taste-based theories of discrimination is how the wage gap might sustain itself in a competitive environment¹⁴: it might be suspected that those theories are unable to generate lasting wage discrimination. Do the analyses surveyed by Altonji and Blank (1999) allow to remove these suspicions? An indication of the relevance of this concern is that in analyses of employer discrimination, prejudiced employers keep earning lower profits than unprejudiced ones.

Several assumptions define the long-run. Among them: that of perfect labor mobility, that of free entry, that of perfect capital mobility. The point of the papers surveyed by Altonji and Blank (1999) is that costly search involves that, even in the long run, labor mobility is imperfect. As regards free entry, it is argued that because of entrepreneurial talent scarcity (even in the long run), prejudiced employers may survive. But the third point remains: capital goes where profits are! Since profit differential favors unprejudiced employers, prejudiced ones will be driven out of the market.

As regards the statistical discrimination mechanism justifying socio-demographic pay gap, Darity and Mason (1998) note that, in the long run, employers are likely to find methods of predicting the future performance of potential employees with sufficient accuracy that there is no need to use additional signal of race or gender. This is all the more plausible that, both minority workers and employers have incentives to improve hiring tests.¹⁵ The discussion is then not closed.

¹³Not simply the degree of prejudice of the marginal employer of the less favored socio-demographic group.

¹⁴As Arrow (1998) points it: "If the members of two races, after adjusting for observable differences in human capital and the like, received different wages [...], an arbitrage possibility would be created which be wiped out by competition."

¹⁵As Cain (1986) stresses, if the worker knows his or her own ability, a low-cost private exchange method minimizing this impediment is to offer a trial period of employment to demonstrate their true

Although micro evidence of pure pay discrimination is lacking,^{16,17} this hypothesis was a direct way to give an account of statistical differences between socio-demographic groups. But its compatibility with the long run pressures of markets economy raises doubts. Yet, there is no need of pure wage discrimination to obtain statistical disparities in earnings. Pure wage discrimination certainly exists, but some evidence suggests that it is unlikely to explain the entire observed gaps, nor to be the central micro reality hiding behind them.¹⁸

2 Hiring discrimination and occupational segregation in the labor market

Major aspects of disparities between social groups in the labor market are hiring discrimination and occupational segregation. The distribution of employment by occupation or sector is still very much gender-segmented.¹⁹ Similar evidence exists that involves racial differences.²⁰ Furthermore, consistent micro evidence is available about hiring discrimination which endows analysts with precise indications as for the routes through which productivity. As regards gender discrimination linked to differences in work probabilities, Cain shows that it should not generate gap in average earnings.

¹⁶As François notes

In contemporary labor markets, discrimination rarely takes the form of women being paid less than men in the same jobs at the same establishments (...) François (1998, p. 4)

Among the scarce sources of micro evidence of pay discrimination, the analysis of court cases - see Darity and Mason (1998).

¹⁷See also Gunderson for which:

(...) pay differences for the same narrowly defined occupation within the same establishment do not account for much of the (male-female earnings) gap. Gunderson (1989, p. 51)

¹⁸See François (1998), Blau & Kahn (2000) or the OECD Employment Outlook (2002) for the gender gap. For the racial gap, see the discussion in Holzer (1998).

¹⁹See Treiman and Hartman (1981, p. 33), Johnson and Solon (1986) and an extensive discussion and survey in Gunderson (1989).

²⁰See Gittelman and Howell (1995).

socio-demographic differentials are realized. Thus, reported facts strongly suggest an indirect way to explain socio-demographic disparities in earning.

2.1 Both a documented micro reality and a statistical fact

We successively tackle the evidence on hiring discrimination and occupational segregation. Hiring discrimination occurs when two individuals with similar productive characteristics do not have an equal chance of getting a job.

2.1.1 Direct evidence of hiring discrimination

Audit studies²¹ confirm that hiring discrimination is widespread: for a large class of jobs, with similar resumés (regarding productivity-relevant characteristics), both women and blacks experience a lower chance to be hired than white men. Bertrand and Mullainathan (2003) conduct a global study of racial discrimination in hiring. Manipulating the perception of race (in otherwise similar resumés) by using distinctively ethnic names, they show that "callback" rates are significantly lower for distinctively black-named applicants. Neumark (1996) studies sex discrimination in restaurant hiring. He finds that in high-price restaurants (where waitpersons' earnings are higher), job applications from women had an estimated probability of receiving a job offer significantly lower than those from men. Other findings indicate that hiring discrimination depends on the type of jobs under consideration.²²

The two latter studies bring rich and detailed insights as regards hiring discrimination and resulting occupational distribution of socio-demographic groups.²³ In the remaining, we will refer to them when discussing the adequacy of various models to micro evidence.

²¹For some elements as regards the principle and methodology of audit studies see Riach and Rich (2002).

²²See Petit (2003).

²³Although catering industry may look a bit particular (as well as the occupation of waitperson), we view Neumark's findings as very informative as one looks at discrimination and segregation in some details.

2.1.2 Occupational segregation: both horizontal and vertical

Occupational segregation is said to be horizontal when it involves a segregated distribution of socio-demographic groups between jobs that correspond to a given standard of earnings. It is said to be vertical when jobs under consideration differ with respect to earnings standards.

Further statistical evidence about occupational segregation According to Gunderson (1989), differences in the occupational distribution of males and females account for a substantial portion of the overall earnings gap.²⁴

Descriptive statistics. Let us start with some evidence gathered in the OECD employment outlook for 2001 about gender differences in occupation. Women are over-represented in clerical occupations, sales jobs and the life-science/health and teaching professions, whereas they remain under-represented in managerial and top administrative occupations, as well as in manual and production jobs. The large majority of both women and men are concentrated in a small number of occupations that tend to be either female- or male-dominated. For the United States, the following table displays the occupational distribution of black and white workers (of each gender) by job category as well as mean hourly earnings for each job category.

²⁴See Treiman and Hartman (1981, p. 33).

Job category ²⁵ \ Socio-demographic groups	Black male	Black female	White female	White male	Mean hourly earnings
Officials and managers	6.0%*	4.4%	9.4%	16.4%	\$31.16
Professionals	6.3%	10.2%	21.0%	17.5%	\$27.18
Technicians	4.6%	5.8%	6.3%	6.6%	\$19.89
Sales workers	9.6%	13.2%	14.8%	11.0%	\$14.50
Office and clerical workers	7.6%	25.6%	24.1%	5.0%	\$13.41
Craft workers	9.4%	1.9%	2.1%	13.6%	\$18.20
Operatives	23.1%	9.6%	6.2%	16.0%	\$12.94
Laborers	14.9%	6.7%	4.2%	7.0%	\$10.98
Service workers	18.5%	22.7%	11.9%	6.9%	\$10.32

Sources: The U.S. Equal Employment Opportunity Commission, 2002 EE0-1 and Aggregate Report and National Compensation Survey, 2002

Available online: <http://www.eeoc.gov/stats/jobpat/2002/us.html> and www.bls.gov/ncs/home.html.

* Reading: 6% of black male workers belong to the class Officials and managers.

This table offers a clear view on dissimilarities in the distribution of the different socio-demographic groups between industries. Furthermore, a look at mean hourly earnings for each job category, brings a first enlightenment as regards vertical occupational segregation: the black/white difference in distribution is particularly striking in top earning standards.

Empirical analysis. Some studies actually document the link between occupational distribution and the racial gap in average earnings. Cunningham and Zalokar (1992) analyze the determinants of black women economic progress for the period 1940-1980. Curbing the explanatory impact of human capital theories, they find little evidence that convergence in the characteristics of black and white women (increasing similar education, for example) is responsible for black women's increased relative wage and occupational status and conclude that black women's improved economic status after 1940 was largely due to decreases in racial discrimination by occupation and industry. Gittleman and Howell (1995) study the effects by race and gender of changes in the structure and quality of jobs in the United States between 1973 and 1990. The relative concentration of blacks in low quality (and poorly-paid) jobs is clear.

²⁵As regards the content of each job category below, see the webpage <http://www.eeoc.gov/stats/jobpat/glossary.html>.

Yet, neither these studies nor the above figures can be interpreted as micro evidence of vertical segregation (each category contains too many different jobs). What can we learn from micro studies?

Micro evidence of vertical occupational segregation. As regards the wider question of disparities in the labor market, a crucial contribution of Neumark (1996) is to document, through a micro empirical study, evidence of vertical occupational segregation by gender.²⁶ In a single industry (catering), he distinguishes two statuses: waitperson in high-price restaurants, waitperson in low price restaurants. The interesting thing is that vertical occupational segregation arises, with a majority of men working in high-price restaurants (which pay well), and a majority of women working in low-price restaurants (which pay poorly). Neumark mentions studies which conduct a comparable test for racial discrimination: it turns out that discrimination against blacks exists in high-price restaurants.²⁷ Studying racial discrimination in the United States urban labor market between 1910 and 1950, Sundstrom (1994) emphasizes the role of norms against white subservience to blacks played in determining the racial composition of occupations.

This empirical documentation of hiring discrimination and vertical occupational segregation makes an indirect analysis of statistical wage disparities looking particularly promising. The idea is that the most significant channel to explain average earnings disparities lies in vertical occupational segregation rather than in pure wage discrimination. As François puts it

(discrimination) is manifest in men having better access to higher paying jobs within an occupation type, even when traditional labor market characteristics are controlled for. François (1998, p. 4).

This position seems consistent with the long lasting nature of earnings disparities:

²⁶Neumark (1996) provides the following useful clarification as regards the various forms the link between occupational segregation and wage disparities can take. Existing gaps in wage can be broken into across occupation components and within-occupation components. The gap that remains within occupations may reflect pure pay discrimination between employees of different socio-demographic groups working alongside one another. It may also reflect segregation across high- and low-wage firms, or segregation across jobs within occupations and perhaps also within firms.

²⁷but to a lower extent than for women.

as Cunningham and Zalokar (1992) suggest, vertical occupational segregation is not a recent trend, nor hiring discrimination - see, for the United States, the examples of racial preference in help wanted advertisements published in some 60's newspapers gathered by Darity and Mason (1998).

2.2 Available explanations of occupational segregation

Occupational segregation can arise for many reasons, involving or not hiring discrimination.

2.2.1 Explanations involving hiring discrimination

The findings above suggest that hiring discrimination may be involved in occupational segregation: it might result from more severe employer discrimination in some occupations than in others.

We can come again to taste-based theories of discrimination at this stage. Indeed, even though they are not very well suited to predict lasting gaps in average earnings, they support sustainable lasting segregation - blacks (women) being absent from industries for which labor demand is prejudiced. Yet, there is no obvious way to explain the distribution of prejudice among industries. The customer discrimination perspective suggests that labor demand should be more discriminatory for sales occupations: the table above does not carry unequivocal support to such a prediction. Assuming a situation where unprejudiced employers are numerous enough to hire all black (female) workers,²⁸ the employer discrimination perspective does not make any particular prediction as for the industries that are more likely to exhibit segregated work force. Thereby, those theories can predict horizontal occupational segregation but hardly where it should arise.²⁹ The story involving prejudiced co-workers³⁰ is of particular interest as regards vertical occupational segregation. It brings an explanation to a "glass ceiling" impeding women's (resp.

²⁸Which allows that all workers be paid their marginal productivity.

²⁹The competition exposure criterion (more likely discrimination occurrence in less competitive markets) is actually one when accounting for wage discrimination. When only occupational segregation is involved, competition exposure is of no help.

³⁰Arrow (1998) shows that, in the standard model, assumption of employee discriminatory taste may lead to an explanation of segregation within industries but not segregation by occupation.

blacks') occupational advancement by assuming that men (resp. whites) do not accept to receive orders from women (resp. blacks³¹).

Although statistical discrimination may explain that different agents with similar productive traits do not have the same chance of obtaining a job, it is not clear how it could explain the occupational distribution of socio-demographic groups. It may be argued that the skills required by some industries are more easily observed than those required by others but it leaves us with little indication as to where one should expect hiring discrimination to occur as a consequence of statistical discrimination. Vertical occupational segregation could result from the fact that, for instance, managerial or administrative skills are less easy to observe than more technical ones. This would be another channel to explain the "glass ceiling" phenomenon.

But vertical occupational segregation does not necessarily involve hierarchical aspects as Neumark (1996) shows. Besides, what do previous micro empirical studies tell us about available explanations? Bertrand and Mullainathan (2003) use their findings to test the plausibility of alternative explanations (mostly, taste-based and statistical discrimination theories). Some of their results raise doubts about customer and co-worker discrimination: they do not find any hardening of discrimination among jobs that explicitly require "communication skills" and those for which one expects either customer or co-worker contacts to be higher. As regards statistical discrimination, authors suggest that, if employers tend to use race to proxy for unobservable skills, resumés enhancement should reduce discrimination: they obtain a lower return to credentials for African Americans!³² The main explanation to Neumark (1996) findings is customer discrimination³³: high-price restaurant managers discriminate against women because clientele prefers waiters

³¹Cf Sundstrom's (1994) conclusions mentioned above.

³²This argument seems invalidating only as regards models assuming that the precision of human capital signals vary whether they are sent by black or white applicants and that employers are risk adverse. But we saw that evidence exist of higher average human capital among whites than among blacks. Furthermore, Bertrand and Mullainathan's (2003) result can be regarded as an interesting finding as far as self-fulfilling prophecy mechanisms are considered. Indeed, it suggests that the return to human capital is actually lower for members of the minority group: they have a lower incentive to invest in human capital which is consistent with the pre-market disparities story displayed above.

³³Employment discrimination is ruled out because the proportion males among the waitstaff is not positively related to whether hiring decision are made by male owners and managers.

to waitresses.³⁴ However, it remains unclear why high-price restaurants customers should be more prejudiced against women than low-price restaurants customers.

Previous explanations can predict horizontal occupational segregation.³⁵ But they do not say where it is the most likely to occur. Regarding vertical occupational segregation, few insights are available that do not invoke hierarchical aspects. Even though some theories provide valuable insights,³⁶ we saw that vertical occupational segregation could arise without involving hierarchical aspects.

2.2.2 Explanations that do not involve hiring discrimination

One can explain occupational segregation without mobilizing hiring discrimination.

Human capital. A first possibility is that group differences in pre-labor market human capital investment and in non-labor market activities may lead to differences in comparative advantages across occupations. This can both account for horizontal and vertical occupational segregation. As for vertical occupational segregation, human capital theories seem particularly well suited to enlighten differences between blacks and whites, a bit less as regards gender differences. This trail brings us back to what is argued above as for earnings gaps, and seems relevant mostly to the analysis of black workers exclusion from high status occupations. Yet, the nature of the gender and racial differing comparative advantage across occupations remains unspecified.

Preferences. Altonji and Blank (1999, p.3176) mention another possible explanation: that members of different groups select into different occupations, notably because social norms regarding appropriate occupations may differ between groups. What is more, preferences for the characteristics of occupations may differ between groups, particularly men and women. This is consistent with facts: differences in preferences for certain types of jobs account for a substantial portion of the earnings gap.³⁷ But, again, the very nature

³⁴Consistent - according to Neumark (1996) - with customer discrimination is the evidence that the proportion male among the waitstaff is significantly positively related to the proportion male among the clientele.

³⁵Although their empirical relevance remains questionable.

³⁶We will come again on the "glass ceiling" argument below.

³⁷See Gunderson (1989, p. 52).

of these differing preferences are not specified.

What is behind? As for gender differences, Corcoran and Courant (1985) provide some assumptions about how sex role socialization might affect labor market outcomes. They mention four ways through which socialization might affect occupational behavior. Among them two human capital arguments: that socialization may lead women to be more fearful or more anxious, or less confident than men are; that sex role socialization may directly affect workers' skills and personality traits. But they also mention two "taste" explanations: that children may internalize traditional notions of sex roles, accept these cultural sex stereotypes as fact, and eventually choose occupations that conform to these stereotypes; that sex role socialization may affect the values men and women attach to different activities so that workers of both sexes tend to value "sex appropriate" activities. In fact, comparable arguments could be invoked as regards racial differences as suggested in Akerlof and Kranton (2000).

In line with these latter suggestions, McCrate (1988) focuses on the central role of endogenous preferences in the understanding of gender difference. Our approach follows a similar inspiration.

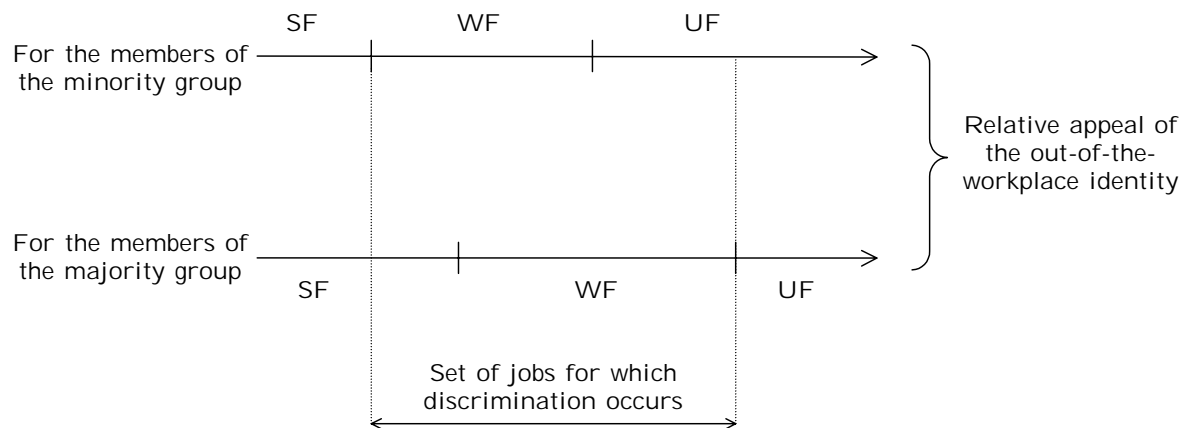
3 A motivation-based theory of hiring discrimination which generates statistical earnings disparities

Facing previous evidence on disparities in the labor market and available explanatory hypotheses, we develop in the sequel some arguments suggested by our approach which we believe are both consistent with evidence and enlightening as regards labor market outcomes.

3.1 A model of hiring discrimination

Let us begin with a summary of our argument regarding hiring discrimination. In our analysis, agents decide whether achieving self-esteem through their job or through other activities outside their working life. In the former case, they develop an intrinsic motivation to effort at work. Certain individual characteristics curb this choice since the

comfortable holding of the workplace identity requires to fit in some ideal attributes. According to field studies we displayed in Baguelin (2004), ideal attributes when one holds the workplace identity are to be a white middle age male with a considered-as-proper initial education, devoided of strong commitments outside one's working life. As a consequence, all other things equal, agents exhibiting characteristics which match the previous portrait should choose the workplace identity (and hence, develop intrinsic motivation to effort) for lower wage amounts than others. If the description of the offered job makes it profitable for the employer to arouse the workplace identity - that is, when the propensity of the employee to hold the workplace identity makes a difference, employers will hire the former first (at the expense of the latter) which leads to employment discrimination.³⁸ Jobs description makes those jobs either strongly fulfilling (*SF*), weakly fulfilling (*WF*) or unfulfilling (*UF*) to an individual of a given socio-demographic group. The conclusion of Baguelin (2004) are summarized in the following picture.



How well does our explanation account for evidence about socio-demographic disparities in the labor market?

3.2 The interpretation of micro evidence

Let us use our model to interpret micro evidence.

³⁸Purists would say that we are not dealing with discrimination: indeed, there exists objective differences as regards individuals' productive characteristics, their ability to develop intrinsic motivations. But from an econometrician's point of view, motivation is not something observable: our model is then actually grounded on unobservable differences between socio-demographic groups.

3.2.1 Interpreting the results of audit studies

From the perspective of our model, the basic interpretation of Bertrand and Mullainathan (2003)'s findings would be the following: being black moves an individual's characteristics aside from the ideal attributes associated to the workplace identity. Assuming a particular concentration of jobs whose description makes them at most (resp. at least) weakly fulfilling to a black (resp. to a white), whites are expected to develop a stronger intrinsic motivation so that it is rational from employers to favor their applications. Moreover, extrapolating our model, the following explanation to the lower return to credentials for blacks (see above) can be suggested. Bertrand and Mullainathan mention their concern that resumé enhancement could have a reverse effect since it could lead the job applicant to be perceived as over-qualified.³⁹ Employers usually have a mixed look at overqualification: on the one hand, it signals higher "material" ability, on the other hand, hiring over-qualified individuals involves a risk of low motivation at work (and, presumably, of high turnover propensity). Hence, this balance is more likely to be disrupted with blacks, whose intrinsic motivation in weakly fulfilling jobs is presumed to be lower. Our approach also raises a question which is not addressed by Bertrand and Mullainathan as regards potential weaknesses of their experiment. What if black-sounding names are interpreted by employers as reflecting community attachment (within our model's framework, a presumption that blacks' outside option as regards self-esteem is higher than whites'): in our identity perspective, this would increase reservation utility, and justify the fact that whites are favored.⁴⁰

Our interpretation of Neumark's conclusions would involve that catering occupations do not comprehend the same job description whether one considers low-price restaurants or high-price ones. Working as a waitperson in the latter brings wider scope but is likely to be more demanding than in low-price restaurants to the extent that the quality of the meal service is then crucial (higher price often responds to higher demands as for service quality): catering jobs in luxury restaurants are presumed to be at least weakly fulfilling to a man but at most weakly fulfilling to a woman. The stronger propensity of men to

³⁹See the sections devoted to the building of a bank of resumé or the one addressing the potential counfound.

⁴⁰The role of attachment to ethnic origins in the determining of performance in the labor market is already emphasized by Akerlof & Kranton (2000, p.738).

develop intrinsic motivation as waiters in establishments where service is more formal encourages managers to give them an advantage over women.

A further point deserves attention. Neumark evokes a *Newsweek* article discussing his study, in which one restaurant owner explained the lack of waitresses in his upscale restaurant as "a question of us seeing an endless number of male applicants and few female applicants" (*Newsweek* April 10, 1995). If true, this could be consistent with our explanation. Indeed, for the offered contract (which targets men) women are not willing to exert the required level of effort: they do not apply because the contract is not satisfying to them. A comparable fact is observed by Bertrand and Mullainathan (2003). They find that federal contractors, who are thought to be more severely constrained by affirmative action laws,⁴¹ do not discriminate less than other firms; neither do larger employers who explicitly state that they are an "Equal Opportunity Employer" in their ads. This suggests that, statistically, there is few malevolent recruiters i.e. practices do not look arbitrary: no matter how firms care about equity, when offered jobs are at least weakly fulfilling to white applicants, their ability to develop an intrinsic motivation makes their hiring economically justified.

3.2.2 Further micro interpretations

Childless women are proved to work in higher-pay occupations than mothers of the same age.⁴² Assume that some well paid jobs which are weakly fulfilling to women remain to be filled but that there is a shortage of men exhibiting the ideal attributes associated to the workplace identity. Employers start looking at other applications. Having children (particularly preschoolers) feeds the presumption of high self-esteem achievement opportunities outside the workplace that is of high reservation utility. Inducing effort from a childless woman is then presumed to be cheaper so that they are favored. This would not have been the case for a job that would have been unfulfilling or strongly fulfilling to both mothers and childless women.

Let us turn to the interpretation of available statistical evidence.

⁴¹Leonards [1990] (see Holzer [1998]) indicates that federal contractors are indeed more likely to hire blacks than non-contractors due to federal affirmative action regulations.

⁴²OECD Employment outlook (2002, p.108).

3.3 Accounting for statistical realities

We cannot talk of predictions as regards the aggregate implications we derive from our model: the assumptions we made about the structure of the labor market are far too particular. It prevents us from giving a precise account of how a finite number of workers from the minority or majority socio-demographic groups should be distributed among jobs under competitive pressures. However, by isolating the role of an identity trade-off, we believe that our model brings interesting explanatory arguments as regards statistical facts.

3.3.1 Socio-demographic gaps in average earnings

From the building of the set of jobs for which discrimination occurs within the space of jobs, described by a pair (scope, degree of demand), we give some potential consequences of the particular occupational segregation we obtained, in terms of unequal earnings between socio-demographic groups. The gap in average earnings (favorable to agents who fit in) may be a consequence of the fact that the potential share of jobs for which discrimination occurs is increasing in expected pay: hiring discrimination is more likely in the class of well-paid jobs than in the class of poorly paid ones. Why is it so? Because pay is increasing in the degree of demand, and the more demanding a job, the stronger the incentives for the employers to arouse an intrinsic motivation (i.e. the workplace identity): it is precisely on that ground that discrimination takes place in our analysis. All things considered, our explanation of earnings disparities (as a macro statistical fact) is very simple: female and black individuals earn less than white males because they are relatively more concentrated in less demanding occupations. Evidence regarding this presumed trend are analyzed in what follows.

Let us look at the question of gender earnings gap in more detail using further existing evidence.

3.3.2 Gender composition of occupations and earnings

Two widely documented facts are confirmed by Macpherson and Hirsch (1995) as regards the relation between the share of women within an occupation and earnings: (1) both women and men earn less as the proportion of female workers in their occupation increases;

(2) the negative impact of the female proportion in an occupation on wages is stronger for men than for women.

We believe our model provides interesting suggestions as regards the understanding of these facts. Yet, it requires to renounce to interpret them as evidence that the female proportion in an occupation is a determinant of the average wage in this occupation. Let us display the interpretation our perspective would support. Consider the fact (1). The average wage in a given occupation decreases with the degree of demand. The lower this degree, the less likely the employer will arouse the workplace identity. If she does not, that is, if the job under consideration is unfulfilling to a man, no discrimination occurs. Hence, the female proportion in such an occupation is likely to be high (since most male workers should be concentrated in discriminating jobs) although there could also be some men. Since there is no pure pay discrimination, both men and women receive low wages, which is consistent with the fact (1). Let us turn to the fact (2). Assume further that the out-of-the-workplace self-esteem of men is lower than that of women (potentially because they have fewer opportunities to develop self-esteem at home, for instance through family activities). Then, the reservation utility is lower for men than for women and men are paid less.⁴³

3.3.3 Gaps in average earnings due to motivation-based occupational segregation: how lasting are they?

To be long lasting, discrimination should increase profits or non-discrimination should be costly. This is precisely the case in our model. We obtain an unambiguous increase in profits associated to discrimination when it takes place.⁴⁴ Moreover, our argument for this result seems more cross-occupational than existing alternatives allowing higher profit to discriminating employers,⁴⁵ which is consistent with Mullainathan and Bertrand (2003)'s

⁴³Indeed, the participation constraint is then binding for both men and women but men's reservation utility is assumed lower.

⁴⁴That is, for jobs which are at most weakly fulfilling to members of the minority group but at least weakly fulfilling to members of the majority group.

⁴⁵We saw, for instance, that the customer's taste for discrimination hypothesis does obviously not work well in the absence of face-to-face contacts between employees and customers possessing the "taste for discrimination". For other theories of discrimination resisting to competitive pressure, see Darity & Mason (1998).

findings showing that the amount of discrimination is uniform across occupations and industries. What matters from our motivation-based perspective is the job description (whether or not this description feeds an incentive for the employer to arouse the workplace identity). Jobs for which discrimination occurs are likely to be uniformly distributed across industries and we see no reason supporting the assumption that they should disappear in the long run.

3.3.4 The relation between occupational exclusion and fulfilment in the workplace

In the absence of any shortage of workers from the majority group, our model suggests that jobs which are at most (resp. at least) weakly fulfilling to members of the minority group (resp. of the majority group) should be held by members of the majority group (in any case, those workers should be given the priority).

As a consequence and more concretely, women should be distributed either in jobs which are strongly fulfilling or unfulfilling to them. This suggests a non-monotonic profile as one looks at a possible relation between occupational exclusion and fulfilment in the workplace. It is interesting to look at the table illustrating occupational segregation with such an idea in mind. The relative higher concentration of white women both in the Professional job category (presumed to comprehend more fulfilling jobs) and in the Service job category (presumed to comprehend more unfulfilling jobs) could be viewed as a potential manifestation of the non-monotonic profile our model displays. Things look less convincing as for black workers, who primary concentrate in blue-collar jobs.

4 Discussion

So far, we use our model to interpret micro evidence. We now check our model adequacy to statistical findings, wondering whether actual socio-demographic occupational distributions are consistent with what our story suggests.

4.1 Further evidence consistent with our modeling: jobs description, and the distribution of socio-demographic groups

It is noteworthy that in our model, the occurring of discrimination is not independent from technological or organizational aspects (there is no arbitrary behavior from employers): the description of jobs under consideration determines how likely hiring discrimination is and, consequently, occupational segregation should reflect differences in jobs' description.

Our explanation to racial/gender wage disparities in the labor market lies on the idea that white males are relatively more represented in more demanding jobs. As for the role of scope, it is argued that little discrimination should occur in unfulfilling jobs (low scope). Do facts tell us anything about these hypotheses?

4.1.1 Socio-demographic distribution among jobs of varying scope

Lucas (1974) analyses the distribution of job characteristics by race and by gender. Among job characteristics, there are two dummy variables that we believe could be related to scope: *repetitive* and *specific instruction*. The first variable takes value 1 if the job under consideration involves repetitive or short cycle operations carried out according to set procedures or sequences. We believe repetitiveness can be adversely related to scope. Indeed, the more repetitive his task, the more precise the expectation as about its outcomes, the lower the worker 's scope. *Specific instruction* takes value 1 if the incumbent is asked to do things only under specific instruction, allowing little or no room for independent action or judgement in working out problems. Lucas finds that: blacks do perform more repetitive jobs on average than do whites; that they are more subject to specific instruction than white workers. Besides, a greater proportion of blacks than of whites holds jobs at the bottom of the hierarchy, involving only taking instructions.

Although, we view as erroneous the interpretation of the ranking of a job within a hierarchy as a measure of the scope it offers to its incumbent, it looks reasonable to deem that jobs at the bottom of the hierarchy are unlikely to be of wide scope. Since, arousing intrinsic motivation to effort for such jobs would be too costly (they are bound to be unfulfilling), no discrimination should occur: black workers aiming for these jobs obtain them without difficulties. As regards gender differences, Lucas finds that women are more subject to specific instructions than men but not that their job is more repetitive.

Holzer (1998) reports findings which we view as indirect evidence of the role of scope in discrimination occurrence. He shows that small establishments hire less blacks than large ones. An interesting point is that this arises although large establishments employ more highly skilled workers: indeed, it makes human capital arguments irrelevant. Holzer shows that commonly called upon explanations do little to help account for the observed differences in racial hiring outcomes across establishment size categories. Our explanation for such a finding would be the following. Assume that mean scope is wider among jobs in small establishments than among those in large ones (labor division is expected to be stronger in the latter). Then, jobs are more likely to be at least weakly fulfilling to white workers in small establishments which induce employers to try arousing the workplace identity: this makes discrimination against blacks more likely. Furthermore, the assumption that scope could be a substitute to earnings is consistent with the fact that small establishments pay their employees lower wages than large ones.

4.1.2 Socio-demographic distribution among jobs of varying degree of demand

The more demanding a job, the stronger the incentive for the employers to try arousing intrinsic motivations and thus the more likely hiring discrimination. Hence, white male workers should be relatively more concentrated in demanding jobs than female or black workers. There is no consensual measurement of degree of demand, and one could be doubtful as regards the interest of an analysis invoking such a variable. As the desutility associated with a job is considered, proxies could be pure physical strenuousness, tasks complexity, training requirements, time flexibility requirements, exposure to stress... etc., and the adequacy of our perspective to explain the available evidence obviously differs according to the proxy one favors. Let us, nevertheless, mention some empirical results that we view as related to our problem.

Lucas (1974) finds that: black males average most jobs involving difficult working conditions,⁴⁶ and white females much of the lowest frequencies of difficult working conditions; blacks, both male and female, clearly average many more jobs requiring physical exercise.⁴⁷ Furthermore, Lucas observes that being black and being female both act against

⁴⁶Working conditions are defined with regards to: heat, wet, noise, hazards, fumes.

⁴⁷These results obviously capture differences in human capital: the less human capital the more likely

a worker in the probabilities of having jobs requiring lengthier specific vocational preparation⁴⁸: almost half of the black women are in jobs which require less than 30 days of experience to acquire the skills necessary to perform the task; by contrast, 40% of white men are in jobs requiring more than two years of specific vocational preparation.⁴⁹ As regards racial differences in the distribution of job characteristics, previous findings carry ambiguities: if the degree of demand is reduced to its physical aspects, black employees seem to be in more demanding jobs than their white counterpart and the latter suggestion from our model looks invalidated. But non-physical aspects are bound to be at least as important and previous findings suggest that white workers carry out more complex and exacting tasks. Furthermore, the incumbency of high-graded jobs suppose more responsibilities which involves stress. All that makes the invalidation of is suggested by our model as regards racial occupational disparities not so definitive. Besides, when considering the test of our results for gender disparities, there is evidence supporting our view much more boldly.

Indeed, focusing on gender differences, Gupta (1993) obtains findings that are consistent with those of Lucas (1974). A job attribute index is constructed by Gupta using a data set measuring variables such as strength requirements, degree of stress, degree of repetition in work... etc. The higher this index the less "demanding" (in our words) the corresponding job. Gupta finds that: females have significantly greater values for job attribute index; the most male-dominated occupation (crafts/labor) has the lowest value of the attribute index; workers in the "female occupation"⁵⁰ have the highest value for the index. Both results are consistent with our model.

The OECD employment outlook for 2002 displays findings (mainly involving white collar jobs) suggesting that occupational segregation by gender results in an under-utilisation of women's cognitive skills.⁵¹ Authors look at the job content for women compared to that

the exposure to difficult working conditions and repetitive tasks. However, we think they also reflect different choice as regards self-esteem achievement strategies.

⁴⁸The specific vocational preparation indicates the time necessary to learn the techniques, acquire the information, and develop the facility needed for average performance.

⁴⁹Can we not think the access to SVP could be discriminatory? We are confident that the "specific to a job" 's nature of SVP makes it unlikely that discrimination be at stake in SVP engagement.

⁵⁰Jobs which are at least 60% female.

⁵¹See OECD employment outlook (2002, pp. 93, 94).

for men with respect to the extent of utilisation of their skills on the job and of individual perceptions about the complexity of their work tasks. This leads to the following findings: in spite of educational attainment levels that are similar for women and men (or even in favor of women), women engage in writing and reading at work less frequently and/or with less variety than men in all the countries examined; fewer women than men declare that they are carrying out complex tasks in their jobs; more women than men, however, feel that the demands imposed on them by their jobs are too low relative to their skills and, conversely, fewer women than men think they are too high; the skill requirements of many men's jobs are higher than women's.

Let us come again on the relationship between our approach and the main alternative theories.

4.2 Some added value to other micro theories?

4.2.1 Taste-based theories of discrimination

Perhaps, one of the most convincing contribution of taste-based theories of discrimination is the explanation it provides to the "glass ceiling" phenomenon: women (or blacks) fail to progress in hierarchy because white men hardly accept to be supervised by them. Nevertheless, high-graded jobs do not necessary involve personnel management so that, this mechanism could come onto horizontal segregation leaving socio-demographic gaps unexplained.⁵² At this stage, let us mention a further finding of the OECD employment outlook (2002). Women are less prone than men to feel that they have the skills or qualifications to do a more demanding job than the one they occupy.⁵³ Although we consider it separately, the importance of this latter evidence is better understood when connected to latter mentioned OECD findings: it seems that women are less likely than men to wish to occupy high demanding jobs. From the perspective of our model this can be interpreted as evidence that women are more numerous to hold the out-the-workplace identity than men. Hence, vertical gender segregation may result less from rebellious

⁵²As regards how labour mobility can allow overcoming the consequences of prejudiced economic agents' behavior, see Cain (1986).

⁵³This last subjective indicator may reflect both one's perceptions about the adequacy of one's skills and qualifications for the job's demands as well as one's aspirations for a more demanding job.

co-workers⁵⁴ than from the preferences of women. In any case, our view suggests another way to look at the glass ceiling phenomenon.

4.2.2 Human capital theories, and motivation-based theory of discrimination

Gender disparities. Since the ability to develop motivation to effort might be comprehended as a form of human capital, one could see our story as closely related to that of Becker (1985) which mobilizes human capital theory.⁵⁵ However, our argument does not deal with sexual division of labor but with self-esteem achievement strategies. An empirical analysis exists that both differentiates our explanation from that of Becker (1985) and emphasizes its relevance as regards facts. Lobel and St. Clair (1992) studies the effects of family responsibilities, gender, and career identity salience on performance outcomes. When controlling identity salience (career- or family-oriented), neither extensive family responsibilities nor female gender adversely affects merit increase. This result limits the empirical worth of Becker's (1985) prediction as regards the consequences of having family responsibilities.⁵⁶ By contrast, identity salience is proved to positively affect both merit increase and work effort.⁵⁷

Racial disparities: the issue of unobserved human capital. Holzer and Ihlanfeldt (1998) note that a much smaller part of the racial differences in employment rates than wage rates is eliminated by the AFQT.⁵⁸ This suggests that Neal and Johnson's (1996) insights be not so comprehensive as regards racial disparities in the labor market. In more precise terms, this feeds the presumption that stories of purely cognitive pre-market differences in human capital, while bound to explain racial earnings gap could leave the

⁵⁴Besides, personel management could be understood as an aspect of the degree of demand attached to a job.

⁵⁵The argument of Becker [1985] is the following. Because housework an childcare are more effort-intensive than leisure activities, individuals with household responsibilities will economize on the effort expended at work by seeking relatively undemanding jobs. Prediction would be that individual's family responsibilities should have a direct, negative effect on work effort. This to justify that women be less likely to be hired than men.

⁵⁶But also the gender discrimination story's prediction.

⁵⁷Age, education, tenure, position, salary, number of children, preschool child and gender being controled.

⁵⁸A presumed mesure of pre-market skills.

question of hiring performance differentials unanswered. Our model explicitly treats the problem of employment access by giving an account of why hiring discrimination could occur. To this extent, it can be viewed as complementing human capital theory by stressing on non-cognitive aspects of human capital: the ability to develop motivation at work. Besides, even as one considers the racial earnings gap, there are empirical findings supporting the idea that non-cognitive aptitudes are relevant explicatives of the level of wages.⁵⁹ This is emphasized by Bowles, Gintis, and Osborn (2001) through their notion of incentive enhancing preferences.

We believe it worthy to stress the fact that human capital understanding of disparities in the labor market (to which our approach could be affiliated) does not rule out the issue of discrimination: it states that discrimination takes place outside the labor market, not that it does not exist.

4.2.3 Crowding hypothesis, statistical discrimination, and a motivation-based theory

Our analysis could bring compensation for some weaknesses existing models display.

Hiring discrimination: the statistical argument. We believe that the identity trade-off we highlight is particularly well suited to the statistical discrimination mechanism. Indeed, some characteristics favoring the holding of the workplace identity may remain unobserved by the employer: thus, the statistical discrimination mechanism can add up to the self-esteem achievement trade-off we introduce. In addition, the statistical discrimination argument work better when actual differences exist between workers.⁶⁰

Occupational segregation and the gender gap: the crowding hypothesis. Because it involves competitive forces, we did not mention so far a third cause directly connected to occupational segregation and often invoked in the explanation of the gender gap in pay: the "Crowding hypothesis".⁶¹ The idea is that because women are very much crowded into a relative few occupations, market functioning leads to a lower equilibrium

⁵⁹See Bowles, Gintis, and Osborn (2001).

⁶⁰As it was argued in the first section, such differences are found to be at most weakly significant.

⁶¹See Bergman (1971).

wage for female labor services. But this is clearly only half an explanation since the question of why female crowding comes to be true remains unanswered. Johnson and Stafford (1997) provides a model analyzing how institutional constraints, social norms, or employer discrimination might "crowd" a group into particular occupations. But, as Altonji and Blank (1999, p.3180) points it, a major weakness of this stream continues to be a lack of formal models that analyze the mechanisms through which social norms or institutional constraints arise and are sustained. For this very reason, we believe that our model might constitute a useful complement to studies that support the crowding hypothesis: because the workplace identity is, all other things equal, "less affordable" to women than to men, they tend to crowd in jobs that are either unfulfilling or strongly fulfilling to them.

In the discussion above, we suggest that the various manifestations of socio-demographic disparities in the labor market should be studied together, and that analyses connecting these manifestations are valuable. After presenting elements curbing the explanatory appropriatedness of theories of direct pay discrimination, we tried to show the expected benefits of an analysis accounting for disparities in the distribution of different socio-demographic groups between available jobs (and particularly with respect to vertical occupational segregation). This led us to present some aspects of an approach based on socio-demographic differences as regards optimal strategy of self-esteem achievement. Indeed, although motivational aspects are sometimes invoked in the literature to explain the gaps in earnings between socio-demographic groups, few theoretical studies are devoted to this argument. Our analysis suggests that, for some jobs whose description is specified, black or female workers could manifest lower motivation at work than white men as a consequence of diverging strategies of identity building.

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